What is claimed is:

1. A structure formed by chemical vapor deposition having a planar direction and a normal direction, wherein the structure has a dimension in the planar direction that is larger than the dimension in the normal dimension and having grains substantially oriented in the planar direction.

2. A structure, as claimed in Claim1, wherein the structure is a flat ring having a circumference and wherein the grains are oriented in a substantially radial direction around the circumference of the ring.

3. A structure, as claimed in Claim1 or Claim 2, wherein the structure comprises silicon carbide.

4. A structure, as claimed in any one of Claims 1 to 3, wherein the structure is a ring that comprises an inner diameter and an outer diameter and wherein the distance between the inner diameter and outer diameter is approximately 25mm (one inch).

5. A structure, as claimed in Claim 4, wherein the inner diameter is between about 100 mm to 600 mm in diameter.

6. A structure, as claimed in any one of Claims 1 to 5, having an axial thickness of between about 5 mm (0.2 inches) to 356 mm (fourteen inches).

7. A structure, as claimed in any one of Claims 1 to 6, wherein the structure is a flat ring that has a curved outer surface.

8. A structure, as claimed in any one of Claims 1 to 7, wherein the structure is a flat ring having a circumference that has substantially symmetrical stresses around the circumference of the ring.

9. A structure, as claimed in any one of Claims 1 to 8, in which the structure comprises CVD deposited silicon carbide comprising an opacifying dopant dispersed in the silicon carbide in an amount sufficient to provide an opacity greater than 10,000 times that of CVD-deposited silicon carbide.

10. A structure, as claimed in Claim 9, in which the dopant is nitrogen in an amount 100 ppm to about 5000 ppm.

11. A structure, as claimed in any one of Claims 1 to 10, in which the structure comprises CVD deposited silicon carbide material comprising FCC Moissanite-3C silicon carbide having a peak ratio of 220 planes to 111 planes ranging between about 0.30 and about 1.25, as measured by x-ray diffraction.

12. A structure, as claimed in any one of Claims 1 to 11, in which the the peak ratio ranges between about 0.33 and about 0.60.

13. A structure, as claimed in any one of Claims 1 to 12, in which the structure comprises CVD deposited silicon carbide material comprising grains having their axes of growth substantially parallel to each other, and having rotational orientation that is substantially random with respect to the axes of grain growth of the grains.

14. A structure, as claimed in any one of Claims 1 to 13, in which the structure comprises silicon carbide and further comprises a layer of silicon deposited on at least one surface thereof.

15. A method of making structures as claimed in any preceding claim, comprising the steps of:-

a) forming material by chemical vapor deposition on a surface

b) dividing the material by slicing along a direction such as will form one or more structures having a dimension in the planar direction that is larger than the dimension in the normal dimension and having grains substantially oriented in the planar direction.

16. A method as claimed in Claim 15, in which the structures comprise flat rings, the method comprising:

(a) providing a round cross-sectional tube in a deposition zone;

(b) directing precursor gas into the tube;

(c) chemically reacting the precursor gas to form a solid deposit in the shape of the tube on the inside on the tube;

(d) removing the solid deposit; and

(e) dividing the solid deposit into substantially flat rings either before or after removal.

17. A method, as claimed in Claim 16, further comprising directing precursor gas onto an outer surface of the tube, chemically reacting this precursor gas to form a solid deposit on the outside of the tube, removing this solid deposit, and dividing this solid deposit into substantially flat rings either before or after removal.

18. A method, as claimed in Claim 15, in which the structures comprise flat rings, the method comprising:

(a) providing in a deposition zone a mandrel having a substantially round cross-sectional;

(b) directing precursor gas onto the outer surface of the mandrel;

(c) chemically reacting the precursor gas to form a solid deposit approximately in the shape of the mandrel on the outside of the mandrel;

(d) removing the solid deposit; and

(e) dividing the solid deposit into substantially flat rings either before or after removal.

19. A method, as claimed in any one of Claims 15 to 18, wherein the precursor gas comprises methyltrichlorosilane.

20. A method, as claimed in any one of Claims 15 to 19, wherein the tube comprises a graphite tube.

21. A method, as claimed in any one of Claims 15 to 20, wherein the deposit comprises silicon carbide.

22. A method, as claimed in any one of Claims 15 to 21, wherein the tube is provided as a plurality of segments.

23. A method, as claimed in any one of Claims 15 to 22, wherein the dividing comprises slicing the deposit into flat rings having an axial thickness of between about 5 mm (0.2 inches) and about 356 mm (fourteen inches).

24. A method, as claimed in any one of Claims 15 to 23 , further comprising (f) machining the substantially flat rings to desired dimensions.

25. A method, as claimed in any one of Claims 15 to 24 , wherein the ring has a planar direction and a normal direction with the dimension in the planar direction being larger than the dimension in the normal dimension, and wherein grains of the ring that are deposited by

chemical vapor deposition are substantially oriented in the planar direction.

26. A method, as claimed in any one of Claims 15 to 26, wherein the ring has a circumference and wherein the grains are oriented in a substantially radial direction around the circumference of the ring.

27. A method, as claimed in any one of Claims 15 to 26, wherein several tubes are positioned within a CVD furnace.

28. A method, as claimed in any one of Claims 15 to 28, further comprising applying a coating of silicon to at least one surface of the ring.

29. A method, as claimed in Claim 28, further comprising machining the ring prior to applying the silicon coating.

30. A method, as claimed in Claim 28, wherein the silicon coating is applied using chemical vapor deposition.